

C. Claims

Please cancel claims 1, 2 and 4 without prejudice or disclaimer and amend claims 3, 5, 6, 8 and 9 as follows. A complete listing of all the claims appears below; this listing replaces all earlier amendments and listings of the claims.

1. (Cancelled)

2. (Cancelled)

3. (Currently Amended) ~~The A~~ substrate for an ink jet head ~~according to claim 1, including a plurality of heaters for discharging ink, a driving circuit for driving the plurality of heaters, and a substrate temperature sensing element for sensing a substrate temperature, all of which are formed on the same substrate,~~

wherein a protective element is provided between the substrate temperature sensing element and a connection pad electrically which is connected with the substrate temperature sensing element and which establishes electrical connection with an external component, and

wherein a wiring width between the connection pad and the protective element is wider than that between the protective element and the substrate temperature sensing element.

4. (Cancelled)

5. (Currently Amended) ~~The~~ A substrate for an ink-head ~~according to claim 1;~~ including a plurality of heaters for discharging ink, a driving circuit for driving the plurality of heaters, and a substrate temperature sensing element for sensing a substrate temperature, all of which are formed on the same substrate,

wherein a protective element is provided between the substrate temperature sensing element and a connection pad electrically which is connected with the substrate temperature sensing element and which establishes electrical connection with an external component, and

wherein the protective element is provided for a logic circuit unit composing the driving circuit, and a size of the protective element connected to the substrate temperature sensing element is equal to that of the protective element connected to the logic circuit unit.

6. (Currently Amended) ~~The~~ A substrate for an ink jet head ~~according to claim 1;~~ including a plurality of heaters for discharging ink, a driving circuit for driving the plurality of heaters, and a substrate temperature sensing element for sensing a substrate temperature, all of which are formed on the same substrate,

wherein a protective element is provided between the substrate temperature sensing element and a connection pad electrically which is connected with the substrate temperature sensing element and which establishes electrical connection with an external component, and

wherein the substrate temperature sensing element includes a diode sensor.

7. (Original) The substrate for an ink jet head according to claim 6, wherein the protective elements are a protective diode, and is disposed between an anode of the diode sensor and a power source line, between the anode and a ground, between a cathode of the diode sensor and the power source line, and between the cathode and the ground, respectively.

8. (Currently Amended) An ink jet head attachable/detachable to an ink jet recording apparatus comprising:

~~a substrate for an ink jet head having a plurality of heaters for discharging ink, a driving circuit for driving the plurality of heaters, and a substrate temperature sensing element for sensing a substrate temperature, all of which are formed on the same substrate, wherein a protective element is provided between the substrate temperature sensing element and a connection pad which is electrically connected with the substrate temperature sensing element and which establishes electrical connection with an external component according to any one of claims 3, 5 and 6; and~~

a member for forming a liquid channel jointed to the substrate for an ink jet head and associated with the heater and also forming a discharge port which belongs to one end of the liquid channel.

9. (Currently Amended) An ink jet recording apparatus comprising:

~~a head including a substrate for an ink jet head having a plurality of heaters for discharging ink, a driving circuit for driving the plurality of heaters, and a substrate temperature sensing element for sensing a substrate temperature, all of which that are~~

~~formed on the same substrate, wherein a protective element is provided between the substrate temperature sensing element and a connection pad which is electrically connected with the substrate temperature sensing element and which establishes electrical connection with an external component according to any one of claims 3, 5 and 6; and~~

means for applying signals to the connection pad to acquire information about head temperature by supplying the signals to the connection pad.

10. (Original) The ink jet recording apparatus according to claim 9, further comprising:

a carriage operable to removably support the ink jet head and to make the ink jet head to scan a print medium.